

Appl. No. 09/736,899
Reply to Office Action mailed April 23, 2003

Patent
Attorney Docket No. CU-2415

I. AMENDMENTS TO THE CLAIMS

The listing of claims presented below will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1-28. (cancelled)

29. (withdrawn) A data processing device, comprising:
- a) an input for receiving input signals containing data associated with a document a user desires to generate on an output device;
 - b) a redirector unit coupled to said input, said redirector unit operative to extract from said input signals document print information and device information;
 - c) a document analysis unit coupled to said redirector unit, said document analysis unit operative to generate an output signal on a basis of the document print information;
 - d) a device analysis unit coupled to said redirector unit, said device analysis unit operative to determine a status of the output device on a basis of the device information, if the status of the output device requires cost allocation data said device analysis unit being operative to:
 - i. retrieve from the user the cost allocation data;
 - ii. attempt to validate the cost allocation data;
 - iii. if the cost allocation data is validated, generate a control signal including the cost allocation data, said document analysis unit being responsive to said control signal for inserting the validated cost allocation data into the output signal;
 - e) an output for releasing said output signal to the output device.

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30. (withdrawn) A data processing device as defined in claim 29, wherein said output signal is a print job file, said document analysis unit being operative to spool the document print information extracted from said input signals into said print job file.
31. (withdrawn) A data processing device as defined in claim 30, wherein said device information includes an identifier of the output device on which the document is to be generated.
32. (withdrawn) A data processing device as defined in claim 31, wherein said device analysis unit includes a machine readable storage medium holding a data structure storing status information, said device analysis unit operative to consult said data structure on a basis of said identifier to determine the status information for the output device.
33. (withdrawn) A data processing device as defined in claim 32, wherein said device analysis unit includes a user interface permitting the user to enter the cost allocation data.
34. (withdrawn) A data processing device as defined in claim 33, wherein if the status information for the output device indicates that the output device requires cost allocation data, said device analysis unit is operative to initiate the user interface for collecting the cost allocation data from the user, said device analysis unit operative to attempt to validate the collected cost allocation data.
35. (withdrawn) A data processing device as defined in claim 34, wherein if the collected cost allocation data is validated, said device analysis unit is operative to generate a first control signal including the cost allocation data.

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36. (withdrawn) A data processing device as defined in claim 34, wherein if the collected cost allocation data is invalid, said device analysis unit is operative to generate a second control signal, said document analysis unit responsive to said second control signal to discard said print job file.
37. (withdrawn) A data processing device as defined in claim 35, wherein said document analysis unit is responsive to said first control signal for:
- a) extracting from said first control signal the cost allocation data;
 - b) modifying said print job file generated on a basis of the document print information by inserting the cost allocation data according to a predetermined format into said print job file, said print job file including the cost allocation data being released from said output to the output device.
- al 38. (withdrawn) A data processing device as defined in claim 33, wherein if the status information for the output device indicates that the output device does not require cost allocation data, said device analysis unit is operative to generate a third control signal, said document analysis unit responsive to said third control signal for releasing said print job file generated on a basis of the document print information from said output without modification.
39. (withdrawn) A data processing device as defined in claim 29, wherein the cost allocation data includes a user identification number and a file number.
40. (withdrawn) A data processing device as defined in claim 29, wherein the output device is a digital printer/copier device.
41. (withdrawn) A method for validating and controlling the transmission of document print information from a document creation device to an output device on which costs are incurred, said method comprising:

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- a) receiving input signals from the document creating device conveying data associated with a document a user desires to generate on the output device;
- b) extracting from the input signals document print information and device information;
- c) generating an output signal on a basis of the document print information;
- d) determining a status of the output device on a basis of the device information, if the status of the output device requires cost allocation data:
 - i. retrieving from the user the cost allocation data;
 - ii. attempting to validate the cost allocation data;
 - iii. if the cost allocation data is validated, modifying the output signal by inserting the validated cost allocation data into the output signal;
- e) releasing the output signal to the output device.

42. (withdrawn) A method as defined in claim 41, wherein if the status of the output device does not require cost allocation data, said method comprising the step of releasing the output signal generated on a basis of the document print information from the output without modification.
43. (withdrawn) A method as defined in claim 42, wherein the output signal is a print job file, said method comprising spooling the document print information extracted from the input signals into said print job file.
44. (withdrawn) A method as defined in claim 41, wherein the cost allocation data includes a user identification number and a file number.
45. (withdrawn) A method as defined in claim 41, wherein the output device is a digital printer/copier device.
46. (cancelled)

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47. (new) A disbursement tracking system for controlling the usage of an output device, said disbursement tracking system comprising :
- a) an input for receiving input signals conveying data associated with a document a user desires to print on the output device;
 - b) a processing unit coupled to said input, said processing unit operative to:
 - i) extract from said input signals document print information and device information;
 - ii) generate a print job file including data contained in said document print information;
 - iii) determine a status of the output device on a basis of said device information, said status including an indication of a cost allocation data requirement of the output device;
 - iv) process said print job file on a basis of the cost allocation data requirement of the output device, for ensuring that said print job file is in condition for printing by the output device;
 - c) an output coupled to said processing unit for releasing said print job file to the output device.
48. (new) A disbursement tracking system as defined in claim 47, wherein said status of the output device either indicates that the output device requires cost allocation data for printing or that the output device does not require cost allocation data for printing.
49. (new) A disbursement tracking system as defined in claim 48, wherein:
- a) when said status of the output device indicates that the output device does not require cost allocation data for printing, said processing unit is operative to send said print job file unmodified to the output device via said output;

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- b) when said status of the output device indicates that the output device requires cost allocation data for printing, said processing unit is operative to:
- i) retrieve the cost allocation data from the user;
 - ii) submit the cost allocation data provided by the user to a validation process;
 - iii) if the cost allocation data provided by the user is valid:
 - modify said print job file by inserting the validated cost allocation data therein according to a predetermined format;
 - send said modified print job file including the validated cost allocation data to the output device via said output;
 - iv) if the cost allocation data provided by the user is invalid, discard said print job file.

Q2 50. (new) A disbursement tracking system as defined in claim 47, wherein said processing unit includes:

- a) a redirector unit coupled to said input for extracting said document print information and said device information from said input signals;
- b) a document analysis unit operative to spool said document print information extracted from said input signals into said print job file; and
- c) a device analysis unit operative to determine said status of the output device on a basis of said device information extracted from said input signals.

51. (new) A disbursement tracking system as defined in claim 50, wherein said device information includes an identifier of the output device on which the document is to be printed.

52. (new) A disbursement tracking system as defined in claim 51, wherein said device analysis unit includes a machine readable storage medium holding a data structure, said data structure storing status information associated with a plurality

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of different output devices, said device analysis unit operative to consult said data structure on a basis of said identifier to determine said status of the respective output device.

53. (new) A disbursement tracking system as defined in claim 52, wherein said device analysis unit implements a user interface for exchanging data with the user.
54. (new) A disbursement tracking system as defined in claim 53, wherein if said status of the output device indicates that the output device requires cost allocation data for printing, said device analysis unit is operative to:
- a) initiate the user interface for collecting the cost allocation data from the user;
 - b) submit the cost allocation data provided by the user to a validation process.
55. (new) A disbursement tracking system as defined in claim 54, wherein said validation process includes comparing at least a portion of the collected cost allocation data with reference data stored in a database.
56. (new) A disbursement tracking system as defined in claim 55, wherein said at least a portion of the collected cost allocation data includes user identification information and client identification information.
57. (new) A disbursement tracking system as defined in claim 54, wherein if the collected cost allocation data is validated, said device analysis unit is operative to generate a first control signal including the validated cost allocation data.
58. (new) A disbursement tracking system as defined in claim 57, wherein said document analysis unit is responsive to said first control signal to:
- a) extract from said first control signal the validated cost allocation data;

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- b) modify said print job file by inserting the validated cost allocation data according to a predetermined format into said print job file;
- c) send said modified print job file including the validated cost allocation data to the output device via said output.
59. (new) A disbursement tracking system as defined in claim 57, wherein if the collected cost allocation data is invalid, said device analysis unit is operative to generate a second control signal, said document analysis unit being responsive to said second control signal to discard said print job file.
60. (new) A disbursement tracking system as defined in claim 54, wherein if said status of the output device indicates that the output device does not require cost allocation data, said device analysis unit is operative to generate a third control signal, said document analysis unit being responsive to said third control signal to send said print job file unmodified to the output device via said output.
61. (new) A disbursement tracking system as defined in claim 57, wherein during either one of collecting the cost allocation data from the user and validating the cost allocation data provided by the user, said device analysis unit may determine that the cost allocation data is temporarily unavailable, in which case said device analysis unit is operative to generate a fourth control signal, said document analysis unit being responsive to said fourth control signal to await generation of said first control signal by said device analysis unit.
62. (new) A disbursement tracking system as defined in claim 47, wherein the output device is a digital printer/copier device.
63. (new) A computer readable storage medium containing a program element for execution by a computing apparatus to implement a disbursement tracking

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system for controlling the usage of an output device, said disbursement tracking system including:

- a) an input for receiving input signals conveying data associated with a document a user desires to print on the output device;
- b) a processing unit coupled to said input, said processing unit operative to:
- i) extract from said input signals document print information and device information;
 - ii) generate a print job file including data contained in said document print information;
 - iii) determine a status of the output device on a basis of said device information, said status including an indication of a cost allocation data requirement of the output device;
 - iv) process said print job file on a basis of the cost allocation data requirement of the output device, for ensuring that said print job file is in condition for printing by the output device;
- c) an output coupled to said processing unit for releasing said print job file to the output device.

64. (new) A computer readable storage medium as defined in claim 63, wherein said status of the output device either indicates that the output device requires cost allocation data for printing or that the output device does not require cost allocation data for printing.

65. (new) A computer readable storage medium as defined in claim 64, wherein:
- a) when said status of the output device indicates that the output device does not require cost allocation data for printing, said processing unit is operative to send said print job file unmodified to the output device via said output;
 - b) when said status of the output device indicates that the output device requires cost allocation data for printing, said processing unit is operative to:

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- i) retrieve the cost allocation data from the user;
- ii) submit the cost allocation data provided by the user to a validation process;
- iii) if the cost allocation data provided by the user is valid:
 - modify said print job file by inserting the validated cost allocation data therein according to a predetermined format;
 - send said modified print job file including the validated cost allocation data to the output device via said output;
- iv) if the cost allocation data provided by the user is invalid, discard said print job file.

66. (new) A computer readable storage medium as defined in claim 63, wherein said processing unit includes:

- Q2
- a) a redirector unit coupled to said input for extracting said document print information and said device information from said input signals;
 - b) a document analysis unit operative to spool said document print information extracted from said input signals into said print job file; and
 - c) a device analysis unit operative to determine said status of the output device on a basis of said device information extracted from said input signals.

67. (new) A computer readable storage medium as defined in claim 66, wherein said device information includes an identifier of the output device on which the document is to be printed.

68. (new) A computer readable storage medium as defined in claim 67, wherein said device analysis unit includes a machine readable storage medium holding a data structure, said data structure storing status information associated with a plurality of different output devices, said device analysis unit operative to consult said

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data structure on a basis of said identifier to determine said status of the respective output device.

69. (new) A computer readable storage medium as defined in claim 68, wherein said device analysis unit implements a user interface for exchanging data with the user.
70. (new) A computer readable storage medium as defined in claim 69, wherein if said status of the output device indicates that the output device requires cost allocation data for printing, said device analysis unit is operative to:
- a) initiate the user interface for collecting the cost allocation data from the user;
 - b) submit the cost allocation data provided by the user to a validation process.
- A2 71. (new) A computer readable storage medium as defined in claim 70, wherein said validation process includes comparing at least a portion of the collected cost allocation data with reference data stored in a database.
72. (new) A computer readable storage medium as defined in claim 71, wherein said at least a portion of the collected cost allocation data includes user identification information and client identification information.
73. (new) A computer readable storage medium as defined in claim 70, wherein if the collected cost allocation data is validated, said device analysis unit is operative to generate a first control signal including the validated cost allocation data.
74. (new) A computer readable storage medium as defined in claim 73, wherein said document analysis unit is responsive to said first control signal to:
- a) extract from said first control signal the validated cost allocation data;

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- b) modify said print job file by inserting the validated cost allocation data according to a predetermined format into said print job file;
- c) send said modified print job file including the validated cost allocation data to the output device via said output.
75. (new) A computer readable storage medium as defined in claim 73, wherein if the collected cost allocation data is invalid, said device analysis unit is operative to generate a second control signal, said document analysis unit being responsive to said second control signal to discard said print job file.
76. (new) A computer readable storage medium as defined in claim 70, wherein if said status of the output device indicates that the output device does not require cost allocation data, said device analysis unit is operative to generate a third control signal, said document analysis unit being responsive to said third control signal to send said print job file unmodified to the output device via said output.
77. (new) A computer readable storage medium as defined in claim 73, wherein during either one of collecting the cost allocation data from the user and validating the cost allocation data provided by the user, said device analysis unit may determine that the cost allocation data is temporarily unavailable, in which case said device analysis unit is operative to generate a fourth control signal, said document analysis unit being responsive to said fourth control signal to await generation of said first control signal by said device analysis unit.
78. (new) A computer readable storage medium as defined in claim 63, wherein the output device is a digital printer/copier device.
79. (new) A disbursement tracking system for controlling the usage of an output device, said disbursement tracking system comprising :

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- a) input means for receiving input signals conveying data associated with a document a user desires to print on the output device;
- b) processing means coupled to said input means, said processing means operative to:
- i) extract from said input signals document print information and device information;
 - ii) generate a print job file including data contained in said document print information;
 - iii) determine a status of the output device on a basis of said device information, said status including an indication of a cost allocation data requirement of the output device;
 - iv) process said print job file on a basis of the cost allocation data requirement of the output device, for ensuring that said print job file is in condition for printing by the output device;
- c) output means coupled to said processing means for releasing said print job file to the output device.

80. (new) A method for controlling the usage of an output device, said method comprising:
- a) receiving input signals conveying data associated with a document a user desires to print on the output device;
 - b) extracting from said input signals document print information and device information;
 - c) generating a print job file including data contained in said document print information;
 - d) determining a status of the output device on a basis of said device information, said status including an indication of a cost allocation data requirement of the output device;

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- e) processing said print job file on a basis of the cost allocation data requirement of the output device, for ensuring that said print job file is in condition for printing by the output device;
 - f) releasing said print job file to the output device.
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